

CLAIMS

1. A full-face-type helmet neck cover which is configured to be attached to near a lower end of a head protecting body of a full-face-type helmet, characterized by comprising

a flexible cover member and a to-be-attached portion which serves to attach said flexible cover member to said head protecting body,

said flexible cover member comprising a substantially plate-like flexible cushion member which is mainly made of a substantially plate-like foamed synthetic resin, and a flexible support member which supports said flexible cushion member,

wherein a permeability of the foamed synthetic resin measured by using a Frajour type method based on JIS L 1096 falls within a range of 0.1 to 10 cc/cm² · sec.

2. A neck cover according to claim 1, characterized in that

said flexible support member is made of a substantially non-permeable sheet-type material, and

said flexible support member covers said flexible cushion member substantially entirely like a bag.

3. A neck cover according to claim 2, characterized in that said sheet-type material

comprises an artificial leather sheet.

4. A neck cover according to claim 1, 2, or 3, characterized in that a density of the foamed synthetic resin falls within a range of 20 to 80 kg/m³.

5. A neck cover according to claim 1, 2, or 3, characterized in that the permeability of the foamed synthetic resin falls within a range of 0.2 to 5 cc/cm² · sec.

6. A neck cover according to claim 5, characterized in that a density of the foamed synthetic resin falls within a range of 25 to 70 kg/m³.

7. A neck cover according to claim 1, 2, or 3, characterized in that the permeability of the foamed synthetic resin falls within a range of 0.3 to 2 cc/cm² · sec.

8. A neck cover according to claim 7, characterized in that a density of the foamed synthetic resin falls within a range of 30 to 60 kg/cm³.

9. A neck cover according to any one of claims 1 to 8, characterized in that an average thickness of said flexible cushion member falls within a range of 4 to 18 mm.

10. A neck cover according to any one of claims 1 to 8, characterized in that an average thickness of said flexible cushion member falls within a range of 6 to 12 mm.

11. A neck cover according to any one of claims 1 to 10, characterized in that the foamed synthetic resin comprises urethane foam.

12. A neck cover according to any one of claims 1 to 11, characterized in that said flexible cushion member is made of only a foamed synthetic resin.

13. A neck cover according to any one of claims 1 to 12, characterized in that

said to-be-attached portion comprises a substantially plate-like elastic to-be-attached member which serves as a shape holding member as well, and

said flexible cover member attached to said to-be-attached member serving as said shape holding member is held in a substantially predetermined shape by said to-be-attached member serving as said shape holding member.

14. A neck cover according to any one of claims 1 to 13, characterized in that said flexible cover member has a substantially annular shape with a missing portion which corresponds to substantially a central portion of a front portion of said head protecting body.

15. A neck cover according to claim 14, characterized in that said missing portion comprises an intermittent portion, so that left and right ends of said flexible cover member are present on left and right sides of said intermittent portion.

16. A neck cover according to any one of claims 1 to 15, characterized in that said to-be-attached portion has a substantially annular shape with a missing portion which corresponds to substantially a central portion of a front portion of said head protecting body.

17. A full-face-type helmet with a neck cover which comprises a full-face-type helmet and a full-face-type helmet neck cover which is configured to be attached to near a lower end of a head protecting body of said full-face-type helmet, characterized in that

said neck cover comprises a flexible cover member and a to-be-attached portion which serves to attach said flexible cover member to said head protecting body,

said flexible cover member comprising a substantially plate-like flexible cushion member which is mainly made of a substantially plate-like foamed synthetic resin, and a flexible support member which supports said flexible cushion member, and

a permeability of the foamed synthetic resin measured by using a Frajour type method based on JIS L 1096 falls within a range of 0.1 to 10 cc/cm² · sec.

18. A helmet according to claim 17, characterized in that

said flexible support member is made of a

substantially non-permeable sheet-type material, and

said flexible support member covers said flexible cushion member substantially entirely like a bag.

19. A helmet according to claim 18, characterized in that said sheet-type material comprises an artificial leather sheet.

20. A helmet according to claim 17, 18, or 19, characterized in that a density of the foamed synthetic resin falls within a range of 20 to 80 kg/m³.

21. A helmet according to claim 17, 18, or 19, characterized in that the permeability of the foamed synthetic resin falls within a range of 0.2 to 5 cc/cm² · sec.

22. A helmet according to claim 21, characterized in that a density of the foamed synthetic resin falls within a range of 25 to 70 kg/m³.

23. A helmet according to claim 17, 18, or 19, characterized in that the permeability of the foamed synthetic resin falls within a range of 0.3 to 2 cc/cm² · sec.

24. A helmet according to claim 23, characterized in that a density of the foamed synthetic resin falls within a range of 30 to 60 kg/cm³.

25. A helmet according to any one of claims 17 to 24, characterized in that an average thickness of

said flexible cushion member falls within a range of 4 to 18 mm.

26. A helmet according to any one of claims 17 to 24, characterized in that an average thickness of said flexible cushion member falls within a range of 6 to 12 mm.

27. A helmet according to any one of claims 17 to 26, characterized in that the foamed synthetic resin comprises urethane foam.

28. A helmet according to any one of claims 17 to 27, characterized in that said flexible cushion member is made of only a foamed synthetic resin.

29. A helmet according to any one of claims 17 to 28, characterized in that

said to-be-attached portion comprises a substantially plate-like elastic to-be-attached member which serves as a shape holding member as well, and

said flexible cover member attached to said to-be-attached member serving as said shape holding member is held in a substantially predetermined shape by said to-be-attached member serving as said shape holding member.

30. A helmet according to any one of claims 17 to 29, characterized in that said flexible cover member has a substantially annular shape with a missing portion which corresponds to substantially a central portion of a front portion of said head protecting body.

31. A helmet according to claim 30, characterized in that said missing portion comprises an intermittent portion, so that left and right ends of said flexible cover member are present on left and right sides of said intermittent portion.

32. A helmet according to any one of claims 17 to 31, characterized in that said to-be-attached portion has a substantially annular shape with a missing portion which corresponds to substantially a central portion of a front portion of said head protecting body.

33. A helmet according to claims 17 to 33, characterized in that

said full-face-type helmet comprises a neck pad attached to near the lower end of said head protecting body,

said neck pad comprising a thin plate-like second flexible cushion member and a second flexible support member which supports said second flexible cushion member, and

said second flexible support member being attached to said head protecting body, and

in an attached state wherein said neck cover is attached to near the lower end of said head protecting body, said flexible cover member of said neck cover covers said neck pad at least partially from below.

34. A helmet according to any one of claims 17 to 33, characterized in that said to-be-attached portion of said neck cover is inserted between an inner surface of an outer shell of said head protecting body and an outer surface of a backing member of said head protecting body substantially upward from substantially below to attach said neck cover to said head protecting body.

35. A helmet according to any one of claims 17 to 34, characterized in that

in an attached state wherein said neck cover is attached to said head protecting body, a proportion of an area of said flexible cover member in an area of a lower opening of an outer shell of said head protecting body falls within a range of 38% to 88%,

in the above attached state, a proportion of a circumferential length of said flexible cover member along a circumference of said lower opening in a circumferential length of said lower opening falls within a range of 70% to 94%, and

in the above attached state, a proportion of an inner circumferential length of said flexible cover member to an outer circumferential length of said flexible cover member falls within a range of 58% to 94%.

36. A helmet according to any one of claims 17 to 34, characterized in that

in an attached state wherein said neck cover is attached to said head protecting body, a proportion of an area of said flexible cover member in an area of a lower opening of an outer shell of said head protecting body falls within a range of 48% to 74%,

in the above attached state, a proportion of a circumferential length of said flexible cover member along a circumference of said lower opening in a circumferential length of said lower opening falls within a range of 80% to 90%, and

in the above attached state, a proportion of an inner circumferential length of said flexible cover member to an outer circumferential length of said flexible cover member falls within a range of 70% to 88%.

37. A full-face-type helmet with a chin cover/neck cover comprising

a full-face-type helmet,

a full-face-type helmet neck cover which is configured to be attached to near a lower end of a head protecting body of said full-face-type helmet, and

a full-face-type helmet chin cover which is configured to be attached to near the lower end of said head protecting body, characterized in that

said neck cover comprises a flexible cover member and a to-be-attached portion which serves to attach said flexible cover member to said head

protecting body,

said flexible cover member comprising a substantially plate-like flexible cushion member which is mainly made of a substantially plate-like foamed synthetic resin, and a flexible support member which supports said flexible cushion member,

a permeability of the foamed synthetic resin measured by using a Frajour type method based on JIS L 1096 falls within a range of 0.1 to 10 cc/cm² · sec,

said flexible cover member having a missing portion which corresponds to substantially a central portion of a front portion of said head protecting body,

said chin cover comprises a second flexible cover member having a porous, permeable flexible cover main body, and a second to-be-attached portion which serves to attach said second flexible cover member to near the lower end of said head protecting body, and

in an attached state wherein both said neck cover and said chin cover are attached to near the lower end of said head protecting body, said neck cover overlaps both left and right ends of said chin cover, and at the missing portion, the substantially central portion of said second flexible cover member of said chin cover does not overlap said flexible cover member of said neck cover.

38. A helmet according to claim 37, characterized in that

said flexible support member is made of a substantially non-permeable sheet-type material, and

said flexible support member covers said flexible cushion member substantially entirely like a bag.

39. A helmet according to claim 38, characterized in that said sheet-type material comprises an artificial leather sheet.

40. A helmet according to claim 37, 38, or 39, characterized in that a density of the foamed synthetic resin falls within a range of 20 to 80 kg/m³.

41. A helmet according to claim 37, 38, or 39, characterized in that the permeability of the foamed synthetic resin falls within a range of 0.2 to 5 cc/cm² · sec.

42. A helmet according to claim 41, characterized in that a density of the foamed synthetic resin falls within a range of 25 to 70 kg/m³.

43. A helmet according to claim 37, 38, or 39, characterized in that the permeability of the foamed synthetic resin falls within a range of 0.3 to 2 cc/cm² · sec.

44. A helmet according to claim 43, characterized in that a density of the foamed synthetic resin falls within a range of 30 to 60 kg/cm³.

45. A helmet according to any one of claims

37 to 44, characterized in that an average thickness of said flexible cushion member falls within a range of 4 to 18 mm.

46. A helmet according to any one of claims 37 to 44, characterized in that an average thickness of said flexible cushion member falls within a range of 6 to 12 mm.

47. A helmet according to any one of claims 37 to 46, characterized in that the foamed synthetic resin comprises urethane foam.

48. A helmet according to any one of claims 37 to 47, characterized in that said flexible cushion member is made of only a foamed synthetic resin.

49. A helmet according to any one of claims 37 to 48, characterized in that

said to-be-attached portion comprises a substantially plate-like elastic to-be-attached member which serves as a shape holding member as well, and

said flexible cover member attached to said to-be-attached member serving as said shape holding member is held in a substantially predetermined shape by said to-be-attached member serving as said shape holding member.

50. A helmet according to any one of claims 37 to 49, characterized in that said flexible cover member has a substantially annular shape with a missing portion which corresponds to substantially a central

portion of a front portion of said head protecting body.

51. A helmet according to claim 50, characterized in that said missing portion comprises an intermittent portion, so that left and right ends of said flexible cover member are present on left and right sides of said intermittent portion.

52. A helmet according to any one of claims 37 to 51, characterized in that said to-be-attached portion has a substantially annular shape with a missing portion which corresponds to substantially a central portion of a front portion of said head protecting body.

53. A helmet according to any one of claims 37 to 52, characterized in that said flexible cover main body of said second flexible cover member is made of mesh cloth.

54. A helmet according to any one of claims 37 to 53, characterized in that

said missing portion comprises an intermittent portion, and

in an attached state wherein both said neck cover and said chin cover are attached to near the lower end of said head protecting body, left and right ends of said neck cover respectively overlap left and right ends of said chin cover.

55. A helmet according to any one of claims 37 to 54, characterized in that

said second to-be-attached portion comprises a substantially plate-like elastic second to-be-attached member which also serves as a second shape holding member, and

said second flexible cover member attached to said second to-be-attached member which also serves as said second shape holding member is held in a substantially predetermined shape by said second to-be-attached member which also serves as said second shape holding member.

56. A helmet according to any one of claims 37 to 55, characterized in that said second flexible cover member has a wide, substantially crescent-like shape which is substantially close to a half moon.

57. A helmet according to any one of claims 37 to 56, characterized in that said second flexible cover member comprises said flexible cover main body and a flexible rim member attached to said flexible cover main body.

58. A helmet according to any one of claims 37 to 57, characterized in that

said full-face-type helmet comprises a neck pad attached to near the lower end of said head protecting body,

said neck pad comprising a thin plate-like second flexible cushion member and a third flexible support member which supports said second flexible

cushion member, and

said third flexible support member being attached to said head protecting body, and

in an attached state wherein said neck cover is attached to near the lower end of said head protecting body, said flexible cover member of said neck cover covers said neck pad at least partially from substantially below.

59. A helmet according to any one of claims 37 to 58, characterized in that said second to-be-attached portion of said chin cover is inserted between an inner surface of an outer shell of said head protecting body and an outer surface of a backing member of said head protecting body substantially upward from substantially below to attach said chin cover to said head protecting body.

60. A helmet according to any one of claims 37 to 59, characterized in that said second to-be-attached portion of said neck cover is inserted between an inner surface of an outer shell of said head protecting body and an outer surface of a backing member of said head protecting body substantially upward from substantially below to attach said neck cover to said head protecting body.

61. A helmet according to any one of claims 37 to 60, characterized in that

in an attached state wherein said chin cover

is attached to said head protecting body, a proportion of an area of said second flexible cover member in an area of a lower opening of an outer shell of said head protecting body falls within a range of 14% to 34%, and

in the above attached state, a proportion of a circumferential length of said second flexible cover member along a circumference of said lower opening in a circumferential length of said lower opening falls within a range of 28% to 52%.

62. A helmet according to any one of claims 37 to 60, characterized in that

in an attached state wherein said chin cover is attached to said head protecting body, a proportion of an area of said second flexible cover member in an area of a lower opening of an outer shell of said head protecting body falls within a range of 18% to 28%, and

in the above attached state, a proportion of a circumferential length of said second flexible cover member along a circumference of said lower opening in a circumferential length of said lower opening falls within a range of 34% to 46%.

63. A helmet according to any one of claims 37 to 62, characterized in that

in an attached state wherein said chin cover is attached to said head protecting body, a proportion of an area of said flexible cover main body of said second flexible cover member in an area of a lower

opening of an outer shell of said head protecting body falls within a range of 8% to 26%, and

in the above attached state, a proportion of a circumferential length of said flexible cover main body along a circumference of said lower opening in a circumferential length of said lower opening falls within a range of 24% to 48%.

64. A helmet according to any one of claims 37 to 62, characterized in that

in an attached state wherein said chin cover is attached to said head protecting body, a proportion of an area of said flexible cover main body of said second flexible cover member in an area of a lower opening of an outer shell of said head protecting body falls within a range of 12% to 22%, and

in the above attached state, a proportion of a circumferential length of said flexible cover main body along a circumference of said lower opening in a circumferential length of said lower opening falls within a range of 30% to 42%.

65. A helmet according to any one of claims 37 to 64, characterized in that

in an attached state wherein said chin cover is attached to said head protecting body, a proportion of an area of said flexible cover member in an area of a lower opening of an outer shell of said head protecting body falls within a range of 38% to 88%,

in the above attached state, a proportion of a circumferential length of said flexible cover member along a circumference of said lower opening in a circumferential length of said lower opening falls within a range of 70% to 94%, and

in the above attached state, a proportion of an inner circumferential length of said flexible cover member to an outer circumferential length of said flexible cover member falls within a range of 58% to 94%.

66. A helmet according to any one of claims 37 to 64, characterized in that

in an attached state wherein said neck cover is attached to said head protecting body, a proportion of an area of said flexible cover member in an area of a lower opening of an outer shell of said head protecting body falls within a range of 48% to 74%,

in the above attached state, a proportion of a circumferential length of said flexible cover member along a circumference of said lower opening in a circumferential length of said lower opening falls within a range of 80% to 90%, and

in the above attached state, a proportion of an inner circumferential length of said flexible cover member to an outer circumferential length of said flexible cover member falls within a range of 70% to 88%.

67. A helmet according to any one of claims 37 to 66, characterized in that

in an attached state wherein both said chin cover and said neck cover are attached to said head protecting body, a proportion of an area of a portion of said second flexible cover member, which does not overlap said flexible cover member, in an area of a lower opening of an outer shell of said head protecting body falls within a range of 7% to 16%, and

in the above attached state, a proportion of a circumferential length of a portion of said second flexible cover member, which does not overlap said flexible cover member, along a circumference of said lower opening in a circumferential length of said lower opening falls within a range of 6% to 30%.

68. A helmet according to any one of claims 37 to 66, characterized in that

in an attached state wherein both said chin cover and neck cover are attached to said head protecting body, a proportion of an area of a portion of said second flexible cover member, which does not overlap said flexible cover member, in an area of a lower opening of an outer shell of said head protecting body falls within a range of 9% to 13%, and

in the above attached state, a proportion of a circumferential length of a portion of said second flexible cover member, which does not overlap said

flexible cover member, along a circumference of said lower opening in a circumferential length of said lower opening falls within a range of 10% to 20%.

69. A helmet according to any one of claims 37 to 68, characterized in that

in an attached state wherein both said chin cover and said neck cover are attached to said head protecting body, a proportion of an area of a portion of said flexible cover main body of said second flexible cover member, which does not overlap said flexible cover member, in an area of a lower opening of an outer shell of said head protecting body falls within a range of 6% to 16%.

70. A helmet according to any one of claims 37 to 68, characterized in that

in an attached state wherein both said chin cover and neck cover are attached to said head protecting body, a proportion of an area of a portion of said flexible cover main body of said second flexible cover member, which does not overlap said flexible cover member, in an area of a lower opening of an outer shell of said head protecting body falls within a range of 8% to 14%.